

1       1. A package for an electronic device comprising:  
2           a substrate;  
3           an integrated circuit die mounted on said  
4       substrate; and  
5           a charge pump including a passive component  
6       mounted on said die and electrically coupled to said die,  
7       wherein the extension of said component from said die is  
8       less than or equal to 16 mils.

1       2. The package of claim 1 including a ball grid  
2       array with multiple solder balls attached to said  
3       substrate.

1       3. The package of claim 2 wherein said component is  
2       adhesively attached to said die.

1       4. The package of claim 3 wherein said adhesive  
2       attachment is user-dispensed epoxy.

3  
4       5. The package of claim 3 wherein said component and  
5       said die are electrically connected to said substrate using  
6       wire bonds.

1       6. The package of claim 1 wherein said component is  
2       an inductor.

1       7. The package of claim 1 wherein said component is  
2       a capacitor.

1           8. The package of claim 1 wherein said package is a  
2 molded array package.

1           9. The package of claim 1 wherein said package uses  
2 Power Supply In Package technology.

1           10. A package for an electronic device comprising:  
2            a substrate;

3            an integrated circuit die mounted on said  
4            substrate;

5            a ball grid array with multiple solder balls  
6 attached to said substrate, said substrate including a  
7 region free of said balls; and

8            a charge pump including a passive component  
9 mounted on said region and electrically coupled to said  
10 die, wherein the extension of said component from said  
11 substrate is less than or equal to the extension of said  
12 balls from said substrate.

1           11. The package of claim 10 wherein said component is  
2 surface mounted to said substrate.

1           12. The package of claim 11 wherein said adhesive  
2 attachment is solder paste.

1           13. The package of claim 10 wherein said component is  
2   an inductor.

1           14. The package of claim 10 wherein said component is  
2   a capacitor.

1           15. The package of claim 10 wherein said package is a  
2   molded array package.

1           16. The package of claim 10 wherein said package uses  
2   Power Supply In Package technology.

1           17. A method comprising:  
2               forming a substrate;  
3               mounting an integrated circuit die on said  
4   substrate; and  
5               forming a package with a charge pump coupled to  
6   said die in said package; and  
7               mounting a passive component on said die and  
8   electrically coupling said component to said die, so that  
9   the extension of said component from said die is less than  
10   or equal to 16 mils.

1           18. The method of claim 17 including attaching a ball  
2   grid array with multiple solder balls to said substrate.

1           19. The method of claim 18 including adhesively  
2   attaching said component to said die.

1       20. The method of claim 19 including using user-  
2 dispensed epoxy to adhesively attach said component.

1       21. The method of claim 20 including using wirebonds  
2 to electrically connect said component to said substrate  
3 and said die to said substrate.

1       22. The method of claim 17 including forming a molded  
2 array package.

1       23. The method of claim 17 including using Power  
2 Supply In Package technology.

1       24. A method comprising:  
2               forming a substrate;  
3               mounting an integrated circuit die on said  
4 substrate;  
5               forming a package including a charge pump coupled  
6 to said die;  
7               attaching a ball grid array with multiple solder  
8 balls to said substrate, said substrate including a region  
9 free of said balls; and  
10              mounting a passive component on said region and  
11 electrically coupling said component to said die, so that  
12 the extension of said component from said substrate is less  
13 than or equal to the extension of said balls from said  
14 substrate.

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1           25. The method of claim 24 including surface mounting  
2 said component to said substrate.

1           26. The method of claim 25 including using solder  
2 paste to attach said component.

1           27. The method of claim 24 including forming a molded  
2 array package.

1           28. The method of claim 24 including using Power  
2 Supply In Package technology.